MUSSEL CONDITION INDEX AND LARVAE MONITORING

Weekly Bulletin

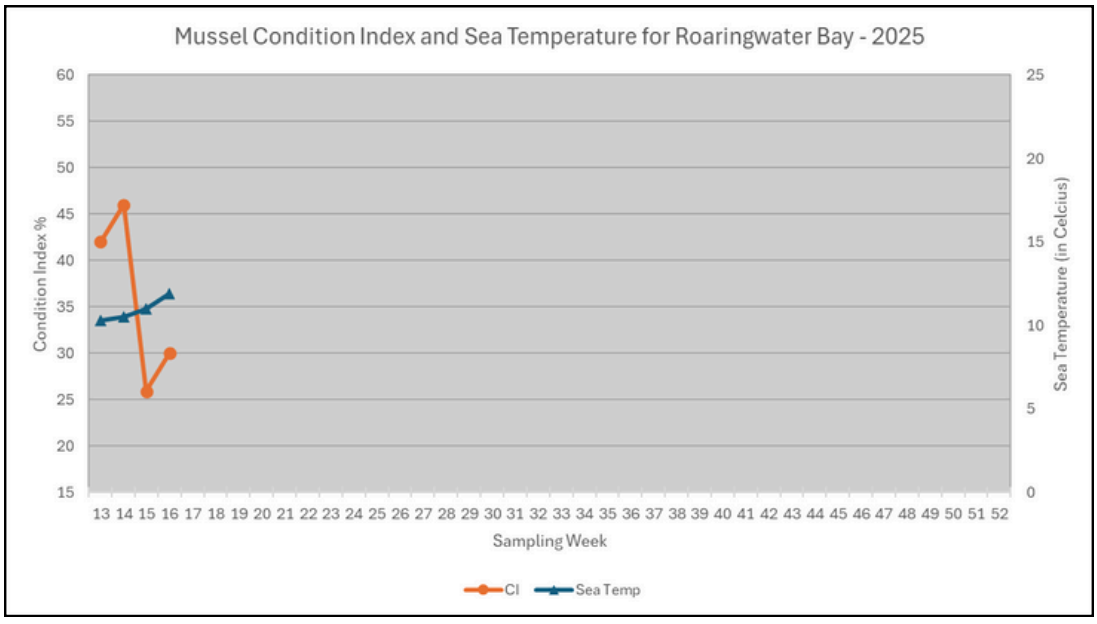
Roaringwater Bay

Southwest Mussel Larvae sampling

17th April 2025

Week 16 (14/04/2025 to 20/04/2025)

Condition Index (CI) for Roaringwater Bay



The Condition Index in Roaringwater is increasing between week 15 and week 16 (**+4.1 %**), while the sea temperature increased by 0.9°c.

The increasing CI could indicate that either the mussels sampled have not spawned yet or that they have been reconditioning following the sharp decrease from the previous week.

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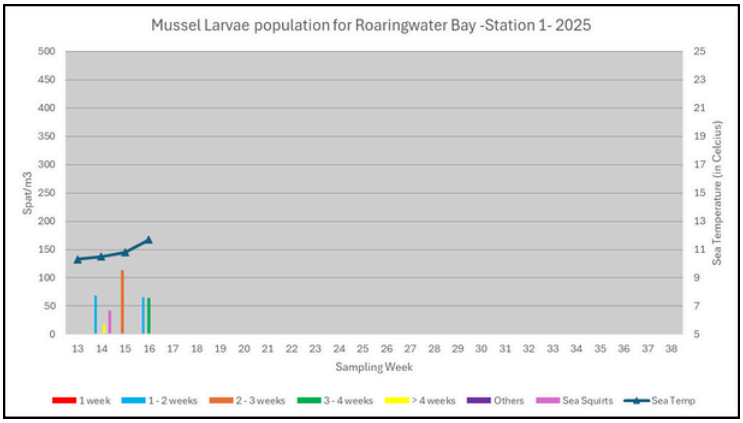
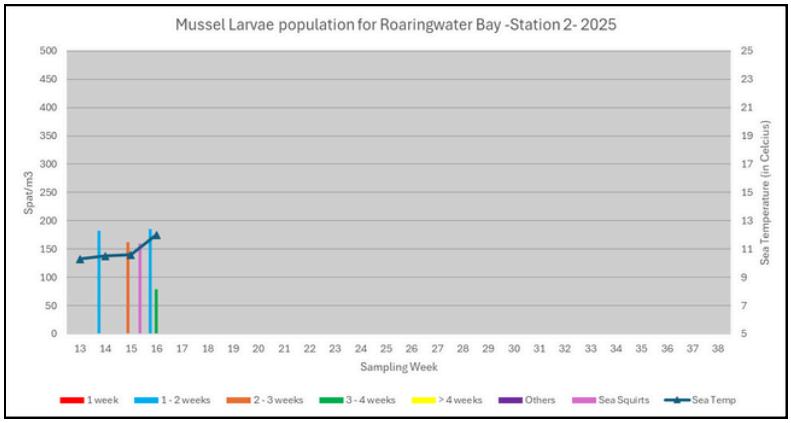
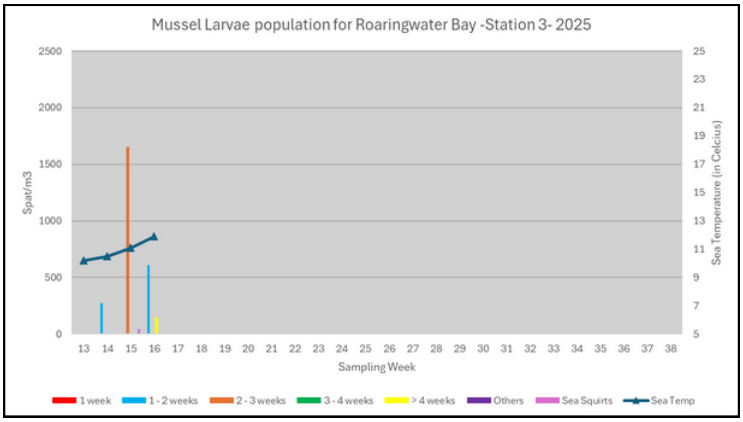
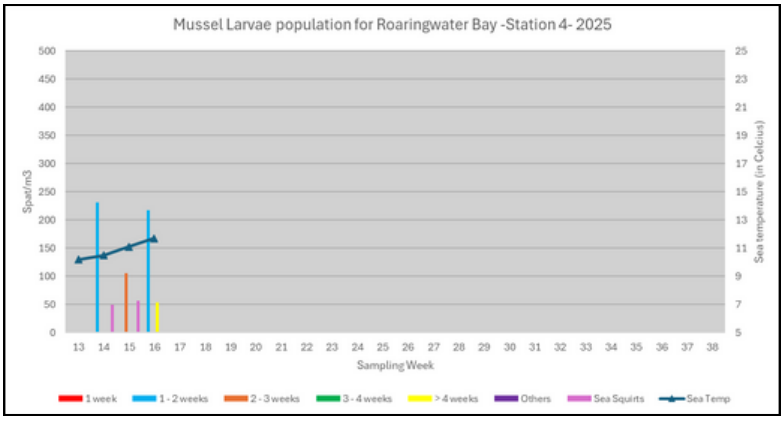
Larvae population evolution in Roaringwater Bay (4 stations)

For each sample, mussel larvae are classed by age: 1 week old, 1 to 2 weeks old, 2 to 3 weeks old, 3 to 4 weeks old, over 4 weeks old and others (younger or older). All 4 stations were sampled on the same day (09/04/2025).









Commentary

The 4 stations presented similar profiles for Week 16, as all stations presented 2 distinct larvae populations (1 to 2 weeks old and 3 to +4 weeks old). Station 1 sample showed a similar concentration to the previous week, split between the two age classes aforementioned (65 of 1 to 2 weeks old and 64 spat/m^3 of 3 to 4 weeks old). Station 2 sample shows similar results with a slight increase in the younger population (185 of 1 to 2 weeks old and 79 spat/m^3 of 3 to 4 weeks old). **Station 3 has again the highest concentration among the 4 stations** (608 of 1 to 2 weeks old and 152 spat/m^3 of 4 to 6 weeks old) despite a sharp drop in the larvae concentration (from 1653 spat/m^3 to 760 spat/m^3). Station 4 sample indicates a significant increase of younger larvae (217 spat/m^3) while some older ones were also present in small quantity (54 spat/m^3 of 4 to 6 weeks old).

Across the samples, the 1 to 2 weeks larvae are the dominating age class, which could relate to the possible spawning event from week 15. The sea temperature is increasing by nearly a degree at all the sampling stations (+0.9°c for Station 1, +1.6°c for Station 2, +0.8°c for Station 3 and +0.6°c for Station 4). The Aquatroll deployed the previous week indicates that sea temperature at 3 m is steady at around 12.3 °c.

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Further observations from analysis (number of sea squirts/m^3 are now included in the graphs):

- Station 1: No seasquirts were observed in the sample. There is a moderate concentration of potential eggs. The phytoplankton level is very low, with Navicula being the dominant species. There is also a low level of barnacles and crabs.

- Station 2: The sample indicates a high potential for eggs, copepods and barnacles. Again, the level of phytoplankton is very low, with Paralia being the dominant species. The sample also presented seaweed plantlets.

- Station 3: No seasquirts were present in the sample. Again, the sample showed a high potential for eggs. The concentration of copepods was moderate, while the concentration of barnacles was low to moderate. The phytoplankton concentration is again very low, with Chaetoceros sp dominant.

- Station 4: No seasquirts again in the sample. The sample showed a low level of debris. Concentrations of copepods, barnacles and periwinkles were high, while crabs appeared at a low level. Very low level of phytoplankton again, with Navicula dominant.

- The Aquatroll also indicates very low levels of turbidity and Chlorophyll a.

- The phytoplankton concentration from the sample taken in Week 16 was 147,040 cells/litre (further details will be provided in future bulletins).

- **As per week 15, the samples indicated significant amounts of potential eggs.**

- The levels of Phaeocystis observed last week have not been observed in this week's samples.

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